

Iranians' Self-Report Knowledge and Practice about Arbitrary Use of Antibiotics

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ABSTRACT

Introduction: Scientific studies revealed a high prevalence rate of self-medication among Iranians, nevertheless there are few studies exploring the factors affecting on.

Aim: This study was conducted to detect the knowledge and behaviour of individuals who take antibiotics arbitrarily.

Materials and Methods: The research population included all Iranian men and women between 20 and 60 years. The sample size based on previous studies and after applying the correction factor 1.6. Total of 950 subjects were involved in this cross-sectional study. Face and content validity (qualitative) tool was confirmed by expert faculty members. It was estimated based on Cronbach's alpha reliability 0.73. After coding, all data were entered into SPSS and analyzed.

Results: The mean and SD of knowledge was 4.58 ± 0.65 . Sore throat (80%) and runny nose (70%) were the most common causes of antibiotic consumption in the participants. The most common reason for antibiotic use was its availability. More than 68% of participants said they never read the brochure of antibiotics. More than 51% of them were unable to understand the content of the brochure. There was a positive relation between participants' knowledge and performance. More than 60% of them had a history of dosage change.

Conclusion: Results of present study revealed that the study population did not possess the requisite knowledge about the appropriate behaviour in the use of antibiotics. It is recommended to do some educational program in order to improve their knowledge and behaviour. Further studies with larger sample in this regard are recommended.

Keywords: Bacterial resistance, Drug, Self-medication

INTRODUCTION

Arbitrary use of drugs, especially antibiotics, is a common problem in Iran. According to the figures, the rate of drugs consumption in Iran is three times more than the global average rate [1-3]. Scientific studies have revealed the various prevalence rates of self-medication, and that there are some factors leading to arbitrary use of drugs among Iranians. For example, rate of self-medication among Iranians estimated in different studies were 33.7% [2], 83% [3], 36% [4] and 26% [5]. Self-medication or arbitrary use of drugs can be defined as the use of medicines by people in order to treat self-recognized or self-diagnosed diseases [1]. It is a medical behaviour of individuals, commonly used for subsiding the primary symptoms of diseases as the first choice [2]. Self-medication is defined as all the activities done by people and communities for health improvement, disease prevention, and health recovery [6]. Also, self-medication is consumption of one or more drugs without a doctor's prescription [7]. The main reasons for self-medication are- history of same symptoms [2], accessibility of drugs [2,3], perceived mildness of risks [3,4], low attention to side-effects [4], past medication [2,4], office rush's and high fees of clinics [2-4]. It is obvious that antibiotics are useful against infectious diseases, but arbitrary use of antibiotics may lead to antimicrobial resistance, which is a current and ongoing threat to human life [8,9].

In spite of the high prevalence of self-medication in Iran, it is supposed that the main action to prevent self-medication is education. In this regards there is no nationwide study to explore the general population's knowledge about this problem in Iran. This cross-sectional study was conducted in Iran in order to detect the knowledge and behaviour of individuals who take antibiotics arbitrarily.

MATERIALS AND METHODS

Study design: This cross-sectional epidemiological study was carried out from April 2016 to June 2016 based on survey design. The inclusion criteria were that participants had to be Iranian between

20 to 60-year-old and with the ability to complete the questionnaire in Persian language. The purpose of research was described to all the participants and informed consents were obtained.

Participants: Iran consists of 31 provinces, and near eighty million people. We selected 12 provinces randomly (Isfahan (known as the half of the world), Qom, Tehran, Gilan, Qazvin, Sistan, Central Khorasan, Khoozestan, East Azarbayjan, Alborz, Yasuj and Ardabil). Sample size was calculated with formula: $n = z^2 \cdot Pq / d^2$ and using the convenience sampling method 950 participants were enrolled in the study (about 80 participants from each province).

Data Collection: In order to gather data a researcher-made questionnaire was used based on the aim of research and according to the scientific literatures [4,5,7]. It was composed of three sections: A) Antibiotic consumption behaviour; B) Knowledge about antibiotics; and C) Demographic data. In order to achieve the psychometric criteria, content validity and reliability were evaluated.

Ten experts (pharmacist and PhD in health education) viewed the questionnaire in order to approve the content and face validity. The alpha-cronbach for test-retest reliability in twenty participants was 0.85. Out of total 950 participants, 683 (71.8%) answered yes to the first question in section A; (Did you already have an arbitrary use of antibiotics?). These participants were asked to complete all sections and the others were conducted to answer the sections just B, and C. The knowledge assessment questions had two options; "Yes", and "No". Questions 1 to 8 scored as; 1 (Yes) and 0 (No) and question 9 and 10 scaled as; 0 (Yes) and 1 (No). Minimum and maximum expected score for knowledge was 0 to 10, respectively.

Direct contact with the respondents allowed us to inform them about the research's objectives and assure the respondents about the anonymity and confidentiality of research.

STATISTICAL ANALYSIS

The Statistical Package for Social Sciences software (SPSS, version 16.0) was used for statistical analysis. All gathered data were coded and entered in, then using descriptive analysing methods

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